

PENDING CLAIMS

1 -26 (Cancelled)

27. (Previously presented) A method for the indirect introduction or removal of heat into or from a reactor which comprises adding a heat transfer medium in a reactor wherein the heat transfer medium comprises an ionic liquid.
28. (Previously presented) The method as claimed in claim 27, wherein the ionic liquid has a melting point below 150°C.
29. (Previously presented) The method as claimed in claim 27, wherein the ionic liquid used as heat transfer medium has an operating temperature in the range from +60°C to 360°C.
30. (Previously presented) The method as claimed in claim 27, wherein the reactor is a shell-and-tube reactor.
31. (Previously presented) The method as claimed in claim 27, wherein the reactor is equipped with heat-exchange plates through which the ionic liquid flows as heat transfer medium.
32. (Previously presented) The method as claimed in claim 27, wherein the ionic liquid contains a sulfate, phosphate, borate or silicate anion.
33. (Previously presented) The method as claimed in claim 32, wherein the ionic liquid contains a monovalent metal cation and a further cation.
34. (Previously presented) The method as claimed in claim 27, wherein the ionic liquid contains an imidazolium cation, pyridinium cation or phosphonium cation.
35. (Previously presented) The method as claimed in claim 27 wherein the method is for removing the heat of reaction of an exothermic reaction.

36. (Previously presented) The method as claimed in claim 27, wherein the ionic liquid replaces a high-temperature salt melt, a heat transfer oil, monochlorobenzene or a heat transfer medium used for evaporative cooling or for the condensation of vapor.
37. (Previously presented) The method as claimed in claim 27, wherein the ionic liquid has a melting point below 80°C.
38. (Previously presented) The method as claimed in claim 27, wherein the ionic liquid has a melting point below 25°C.
39. (Previously presented) The method as claimed in claim 27, wherein the ionic liquid has an operating temperature range from 260 to 360°C.
40. (Previously presented) The method as claimed in claim 33, wherein the monovalent metal cation is an alkali metal cation and the further cation is an imidazolium cation.
41. (Previously presented) The method as claimed in claim 35, wherein the exothermic reaction is a partial oxidation or the preparation of chlorine by oxidation of hydrogen chloride.
42. (Previously presented) The method as claimed in claim 41, wherein the partial oxidation is the preparation of acrolein, acrylic acid, phthalic anhydride or maleic anhydride.
43. (Previously presented) A method for the indirect introduction or removal of heat into or from a reactor which comprises adding a heat transfer medium in a reactor wherein the heat transfer medium comprises an ionic liquid wherein the reactor is a shell-mid-tube reactor or a reactor equipped with heat exchange plates through which a heat transfer medium flows.